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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/660,187	09/12/2000	Masaaki Ito	05905.0125	6735

22852 7590 09/15/2003

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[REDACTED] EXAMINER

WANG, JIN CHENG

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

2672

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/660,187	ITO, MASAAKI	
	Examiner	Art Unit	
	Jin-Cheng Wang	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 and 6-12 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1 and 6-12 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) Interview Summary (PTO-413) Paper No(s) _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment C filed on 07/09/2003 has been entered. Claims 2-5 have been canceled.
Claims 1, 6-8, 10-12 have been amended.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 1, 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isowaki U.S. Patent No. 6,417,854 (hereinafter Isowaki); in view of Inoue et al. U.S. Pat. No. 6,217,445 (hereinafter Inoue) and Oka et al. U.S. Patent No. 6,141,025 (hereinafter Oka).
4. Claims 1, 7-8:

(a) Isowaki teaches a game device (e.g., a game machine) which reads from a storage means (column 1, lines 48-67, and column 2, lines 1-22, column 4, lines 14-56), prior to image processing, background data required in games for displaying a moving object within a virtual three-dimensional space (column 5, lines 54-67) together with a background (column 1, lines 48-67, and column 2, lines 1-22), comprising:

Pre-reading means for pre-reading said background data from said storage means (column 6, lines 6-30) by establishing an area for pre-reading which includes: setting a

predetermined angle-of-visibility based on a direction of the moving object (figures 14-17), setting a limit-line of a visual field at a predetermined distance towards a front of the visual field, and setting a pre-reading start line at a predetermined distance beyond a front of the limit-line of the visual field (column 6, lines 6-37 and column 7, lines 1-19);

Wherein said storage means stores said background data by dividing said background data into a plurality of areas in advance (Isowaki teaches a game device with pre-reading means for pre-reading background data from storage means such as CD-ROM and texture data of pertinent blocks are formed in advance in ROM and transferred to the block area of the texture memory. See for example, Isowaki column 5, lines 54-67, and column 6, lines 6-30);

Said pre-reading means comprising judging means for judging on which of said areas said pre-reading line is crossing, and reading means for reading the background data of the area judged as being crossed with said pre-reading line by this judging means (Isowaki discloses a storage means storing background texture data by dividing it into block areas of texture memory in advance in Isowaki column 6, lines 2-30, figure 4, and column 7, lines 7-30 and pre-reading means comprising judging means for determining (judging) which area AR the vehicle is crossing and texture transfer should be performed in accordance to the vehicular moving speed in Isowaki figure 12, and column 10, lines 44-67. Isowaki further discloses reading means for reading in texture memory the background data (micro-texture data) of the area determined (judged) as being crossed with by the determining (judging) means in accordance to the velocity region. see for example, column 11, lines 1-21);

Wherein said plurality of areas are respectively stored in said storage means by dividing the content of background data per type (Isowaki discloses a game device wherein plurality of

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areas (AR1, AR2, ..., AR6) are respectively stored in storage means by dividing the display data 210 into 6 blocks BLK1-BLK6 that correspond to areas AR1-AR6 in Isowaki column 7, lines 1-30. Isowaki further discloses that display data is divided into 6 blocks and it can be divided into as many blocks as capacity allows in Isowaki column 7, lines 1-30. Moreover, Isowaki has also taught reading means for reading in texture memory blocks the background data of AR1-AR6 in memory blocks BLK1-BLK6 in accordance with the amount of its data in Isowaki column 7, lines 1-30);

Said game device further comprising a work memory including a plurality of memory blocks each set at a same memory capacity (Isowaki discloses a game device wherein plurality of areas (AR1, AR2, ..., AR6) are respectively stored in storage means by dividing the display data 210 into 6 blocks BLK1-BLK6 that correspond to areas AR1-AR6 in Isowaki column 7, lines 1-30. Isowaki further discloses that display data is divided into 6 blocks and it can be divided into as many blocks as capacity allows in Isowaki column 7, lines 1-30. Moreover, Isowaki has also taught reading means for reading in texture memory blocks the background data of AR1-AR6 in memory blocks BLK1-BLK6 in accordance with the amount of its data in Isowaki column 7, lines 1-30);

Wherein said reading means includes means for storing the background data of the crossed area in an integral number "n" of said memory blocks in said work memory in accordance with the amount of the background data to be stored (Isowaki discloses a game device wherein plurality of areas (AR1, AR2, ..., AR6) are respectively stored in storage means by dividing the display data 210 into 6 blocks BLK1-BLK6 that correspond to areas AR1-AR6 in Isowaki column 7, lines 1-30. Isowaki further discloses that display data is divided into 6

blocks and it can be divided into as many blocks as capacity allows in Isowaki column 7, lines 1-30. Moreover, Isowaki has also taught reading means for reading in texture memory blocks the background data of AR1-AR6 in memory blocks BLK1-BLK6 in accordance with the amount of its data in Isowaki column 7, lines 1-30);

Wherein said reading means includes means for judging whether one or more of said memory blocks of said work memory are vacant space or not, and means for successively storing the background data of said crossed area in said integral number n of said memory blocks when said integral number of said memory blocks are judged as vacant space and of sufficient capacity to store the background data (Isowaki discloses that display data is divided into 6 blocks and it can be divided into as many blocks as capacity allows in column 7, lines 1-30. Isowaki further discloses reading means for reading in texture memory blocks the background data of AR1-AR6 in memory blocks BLK1-BLK6 in accordance with the amount of its data in column 7, lines 1-30. Moreover, Isowaki also discloses reading means includes means for judging whether the work memory block is a vacant space or not in figure 4);

- Note that the claim limitation recites the “limit-line” and “start line” that are not specifically determined throughout the Applicant’s specification. In light of Applicant’s specification (see Applicant’s specification, page 12, paragraph 2 and 3, page 12, paragraph 1 and 2), the additional claimed limitation is interpreted as merely a pre-reading means of pre-loading memory blocks of the stored background data into a working memory space. As in the rejection of claim 1, Isowaki has taught the

claimed limitation of pre-reading means of pre-loading memory blocks of the stored background data into a working memory space. The reasons are given next.

- Isowaki teaches a game device comprising a video block 11 receiving data from a storage means such as CD-ROM prior to image processing background data for displaying a moving object in three-dimensional virtual space (column 4, lines 11-67 and column 5, lines 1-67). Isowaki also teaches a game device with pre-reading means for pre-reading background data from storage means such as CD-ROM and texture data of pertinent blocks are formed in advance in ROM and transferred to the block area of the texture memory (e.g., column 5, lines 54-67, and column 6, lines 6-30).
- The examiner asserts Isowaki teaches a pre-reading means for pre-reading background data in advance into a working memory, e.g., for the car race game. In column 6, lines 64-67 and column 7, lines 1-6 of Isowaki, it is stated "a course for a closed-circuit car race is normally constructed in advance as display data 210 and is used by fetching from the above-mentioned display data 210 texture and other data required by a scene accompanying the movement of a movable object in accordance with the development of the game." The examiner interprets this teaching as storing display data in a memory space in advance that accompanies the movement of a high-speed moving object such as a racing car.
- In figures 14-17, Isowaki further teaches setting a predetermined angle-of-visibility based on a direction of the moving object. Isowaki also teaches that texture data of

pertinent blocks are read in advance from ROM to the texture memory (column 12, lines 2-29).

- Isowaki teaches that the fetching of a background screen texture in advance from ROM relative to the background screen texture in memory 132 or currently under display in TV receiver 5 setting a limit-line of a visual field at a predetermined distance towards a front of the visual field, and setting a pre-reading start line at a predetermined distance towards the front of the limit-line of the visual field.
- As applied to the present application, Isowaki fulfills the claimed limitation of setting a limit-line of a visual field at a predetermined distance towards a front of the visual field, and setting a pre-reading start line at a predetermined distance towards the front of the limit-line of the visual field.

(b) However, Isowaki does not explicitly disclose the claimed limitation that "said game device further comprising counting means for detecting whether said moving object exists within said areas corresponding to memory blocks storing background data, or an area that exists within the visual field, in said work memory, and counting said moving object or visual field area periodically, wherein said reading means includes means for determining the memory block to store said background data based on a count value determined for each of said memory blocks by said counting means when it is judged that there is no vacant space in said work memory".

(c) Inoue and Oka teaches a game device comprising counting means for detecting whether said moving object exists within said areas corresponding to memory blocks storing background data (e.g., Inoue column 11, lines 49-67; column 12, lines 1-16), or an area that exists within the visual field (Inoue column 14, lines 5-40), in said work memory, and counting

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said moving object or visual field area periodically (e.g., Inoue column 11, lines 49-67; column 12, lines 1-16), wherein said reading means includes means for determining the memory block to store said background data based on a count value determined for each of said memory blocks by said counting means when it is judged that there is no vacant space in said work memory (e.g., Inoue column 11, lines 49-67; column 12, lines 1-16; Oka column 5, lines 40-67; Oka column 6, lines 1-40; Oka column 7, lines 3-40; Oka column 8, lines 20-65; column 10, lines 5-65).

(d) It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated a counting means of Inoue/Oka in the Isowaki's high-speed three-dimensional game device because such a construction would have provided a means for judging the usage status of memory blocks.

(e) Such modification would have been required for determining the usage status of the memory blocks as suggested by Isowaki by implicitly disclosing a determining means to determine texture memory to be read from memory blocks (e.g., column 11, lines 1-21) thereby suggesting the obvious modification.

(f) One having the ordinary skill in the art would be motivated to do this because determining the usage numbers of the memory blocks would allow a selection of certain memory blocks to be used when the car or a moving object is moving in different area numbers.

(g) The claim 7-8 encompasses the same scope of invention as that of claim 1 except additional claimed limitation of counting means for memory blocks in a variety of forms. As noted above, Isowaki discloses a game device for processing background data and displaying a moving object in three-dimensional virtual space. Isowaki has taught judging means for determining (judging) which area AR the vehicle is crossing and texture transfer should be

performed in accordance to the vehicular moving speed (Isowaki figure 12, and column 10, lines 44-67) and reading means for reading in texture memory the background data (micro-texture data) of the area determined (judged) as being crossed with by the determining (judging) means in accordance to the velocity region (see for example, Isowaki column 11, lines 1-21).

Claim 6:

Isowaki has taught a game device wherein reading means includes determining means for determining a plurality of memory blocks (5 micro-textures) when background data to be stored requires, say, 5 memory blocks (Isowaki column 10, lines 44-67).

Claim 9:

Isowaki has taught a game device wherein moving object such as a vehicle moves within three-dimensional virtual space (Isowaki column 5, lines 54-67).

Claim 10:

Isowaki has taught a sudden change of direction of travel (column 10, lines 3-11) and processing means for enabling the detection of the direction of movement and amount of movement of a movable object (Isowaki column 2, lines 59-67). Isowaki has also taught a game device wherein background data is landform data because the first texture is a picture of a moving road surface when a movable object is in a traveling state (Isowaki column 2, lines 36-54).

5. Claim 11:

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The claim 11 is a rephrasing of claim 1 in a method form. Therefore, the claim 11 is rejected for the same reason set forth in the claim 1.

Claim 12:

The claim 12 encompasses the same scope of the invention as that of the claim 11 except additional claimed limitation of an information recording medium. Isowaki has taught an information recording medium such as a ROM cartridge, CD-ROM and floppy disk (Isowaki column 5, lines 54-67).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (703) 605-1213. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6606 for regular communications and (703) 308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 395-3900.

jcw
September 3, 2003



MICHAEL RAZAVI
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